

Detailed Action

1. This office action is in response to an AMENDMENT entered September 18, 2008 for the patent application 10/564528 filed on January 13, 2006.
2. The First Office Action of March 18, 2008 is fully incorporated into this Final Office Action by reference.

Status of Claims

3. Claims 1, 2, 4-6, 8, 10 are pending.

35 USC § 101

4. 35 U.S.C. 101 reads as follows:
Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1, 2, 4-6, 8, 10 are rejected under 35 U.S.C. 101 for preemption.

Per the specification, the invention can be used for 'propaganda, advertising, marketing, politics, etc.' this sentence states know and unknown uses for the invention. The area of known and unknown uses is addressed in Gottschalk v. Benson, 409 U.S. 63, 71-72, 175 USPQ 673, 676 (1972). In Benson, the claim as for a method "Here the "process" claim is as abstract and sweeping as to

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cover both known and unknown uses of the BCD to pure-binary conversion. The end use may (1) vary from the operation of a train to verification of drivers' licenses to researching the law books for precedents and (2) be performed through any existing machinery or future-devised machinery or without any apparatus." The specification states both known and unknown practical applications for the invention.

Claims which state preemption are not statutory.

Claims 1, 2, 4-6, 8, 10 are rejected under 35 U.S.C. 101 for nonstatutory subject matter. The computer system must set forth a practical application of that § 101 judicial exception to produce a real-world result. Benson, 409 U.S. at 71-72, 175 USPQ at 676-77. The invention is ineligible because it has not been limited to a substantial practical application. A solution that extracts at least one element that is pertinent to both the target and the objective has no real world practical application.

In determining whether the claim is for a "practical application," the focus is not on whether the steps taken to achieve a particular result are useful, tangible and concrete, but rather that the final result achieved by the claimed invention is "useful, tangible and concrete." If the claim is directed to a practical application of the § 101 judicial exception producing a result tied to the physical world that does not preempt the judicial exception, then the claim meets the statutory requirement of 35 U.S.C. § 101.

The phrase 'extracting information from an information database', is not clear in its purpose or scope.

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The invention must be for a practical application and either:

- 1) specify transforming (physical thing) or
- 2) have the FINAL RESULT (not the steps) achieve or produce a useful (specific, substantial, AND credible), concrete (substantially repeatable/ non-unpredictable), AND tangible (real world/ non-abstract) result.

A claim that is so broad that it reads on both statutory and non-statutory subject matter, must be amended.

A claim that recites a method extracts at least one element that is pertinent to both the target and the objective has no real world practical application. There must be a result that is a practical application.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4-6, 8, 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zahavi in view of Mehrotra in view of Schmitt. ('Applying

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neural computing to target marketing', referred to as **Zahavi**; 'Elements of artificial neural networks', referred to as **Mehrotra**, 'Morphological filters', referred to as **Schmitt**)

Claim 1

Zahavi teaches identifying an objective to be attained from a target (**Zahavi**, p6, C1:1-22; 'Target' of applicant is equivalent to 'target audiences' of Zahavi. 'Objective' of applicant is equivalent to 'focused promotions, fewer costs, and higher response rates ... more effective use of promotional expenses and higher profits' of Zahavi.); characterizing the target as a function of the identified objective (**Zahavi**, p6, C1:1-22; 'Target as a function of the identified objective' is inherent by the domains of the 'focused promotions, fewer costs, and higher response rates ... more effective use of promotional expenses and higher profits' of Zahavi.); defining target parameters based upon the characterized target (**Zahavi**, p9, C1:41 through p10, C1:41; 'Target parameters' of applicant is equivalent to 'predictors' of Zahavi.) and applying weights to these parameters based upon importance (**Zahavi**, p7, C2:44 through p8, C1:19; 'Applying weights to these parameters' of applicant is equivalent to finding the weights of a neural network by training the neural network of Zahavi.); selecting a database comprising information pertaining to the target and the identified objective. (**Zahavi**, abstract; 'Selecting a database of applicant is the inherent result of 'database marketing' of Zahavi.)

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Zahavi does not teach evaluating target preferences based upon the database information as a function of criteria specific to the target; allocating weights to the evaluated target preferences.

Mehrotra teaches evaluating target preferences based upon the database information as a function of criteria specific to the target (**Mehrotra**, p2 Fig. 1.2; 'Evaluation preferences' of applicant is illustrated by w_1 and w_2 weights which are linked between nodes of the neural network.); allocating weights to the evaluated target preferences. (**Mehrotra**, p2 Fig. 1.2; The weights w_1 and w_2 are associated with a value of Mehrotra.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the teachings of Zahavi by using weights as taught by Mehrotra to evaluating target preferences based upon the database information as a function of criteria specific to the target; allocating weights to the evaluated target preferences.

For the purpose of being able to train a neural network such that it will perform as desired.

Zahavi and Mehrotra do not teach applying a morphological filter to database information.

Schmitt teaches applying a morphological filter to database information. (**M. Schmitt** ; "Morphologie mathématique") It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the teachings of Zahavi by using a filter as taught by Mehrotra to applying a morphological filter to database information.

For the purpose to have results which are in agreement to the filter.

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Zahavi teaches extracting at least one element that is pertinent to both the target and the objective. (**Zahavi**, p8, Fig 1; 'One element that is pertinent' of applicant is equivalent to the results of the 'scoring' module into the 'decision' module of Zahavi.)

Claim 2

Zahavi teaches wherein the filter is a distance or a metric. (**Zahavi**, p7, C2:44 through p8, C1:19; 'A distance or a metric' of applicant is equivalent to 'sum of squared deviations' of Zahavi.)

Claim 4

Zahavi teaches wherein the weights allocated to each information item to be searched in the database are obtained by semi-automatic analysis (**Zahavi**, p7, C2:44 through p8, C1:19, abstract; 'Semi-automatic analysis' of applicant is equivalent to 'training the neural network' of Zahavi. Weights are inherent to a neural network. 'Database' of applicant is the inherent based on the result of 'database marketing' of Zahavi.)

Zahavi does not teach by an operator or by an expert.

Mehrotra teaches by an operator or by an expert. (**Mehrotra**, p180:6 through p181:24; 'By an operator or an expert' of applicant is disclosed by a 'user defined constance' of Mehrotra.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the teachings

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of Zahavi by using expert input as taught by Mehrotra to have an operator or by an expert.

For the purpose of defining the neural network beyond accuracy limit of the training sets.

Claim 5

Zahavi teaches wherein the pertinent elements are ranked by order of pertinence. (**Zahavi**, p15, C2:9 through p16, C1:30; 'pertinent elements are ranked by order of pertinence' of applicant is equivalent to 'customers position in the decreasing ranking order' of Zahavi.)

Claim 6

Zahavi teaches wherein the evaluation of the preferences is effected in a numerical manner. (**Zahavi**, p7, C2:44 through p8, C1:19; 'A numerical manner' of applicant is disclosed by 'sum of squared deviations' which has a numerical manner of Zahavi.),

Claim 8

Zahavi teaches wherein the pertinent elements are ranked by order of pertinence. (**Zahavi**, p15, C2:9 through p16, C1:30; 'pertinent elements are ranked by order of pertinence' of applicant is equivalent to 'customers position in the decreasing ranking order' of Zahavi.)

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Claim 10

Zahavi teaches wherein the pertinent elements are ranked by order of pertinence. (**Zahavi**, p15, C2:9 through p16, C1:30; 'pertinent elements are ranked by order of pertinence' of applicant is equivalent to 'customers position in the decreasing ranking order' of Zahavi.)

Response to Arguments

5. Applicant's arguments filed on September 18, 2008 for claims 1, 2, 4-6, 8, 10 have been fully considered but are not persuasive.

6. In reference to the Applicant's argument:

REMARKS

Reconsideration and allowance in view of the foregoing amendments and the following remarks is respectfully requested.

By this Amendment, claims 1, 4, and 6 are amended and Claims 3, 7, and 9 are canceled without prejudice or disclaimer. Accordingly, Claims 1, 2, 4-6, 8, and 10 are pending in this application.

Rejections under 35 USC 101

Claims 1-10 stand rejected under 35 USC 101 for preemption. In response, the

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claims are amended and believed to directed to statutory subject matter for the reasons discussed below.

The Office Action cites *Gottschalk v. Benson*, 409 U.S. 63, 71, 72, 175 USPQ 673, 676 (1972) in its 101 rejection. Applicants respectfully submit that the holding of is misapplied to the instant application. In *Benson*, the Supreme Court held that a process involving a numerical algorithm was not patentable if "the patent would wholly pre-empt the mathematical formula and in practical effect would be a patent on the algorithm itself."

Specifically, the claim litigated in *Benson* recited "[a] data processing method for converting binary coded decimal number representations into binary number representations comprising the steps of..." The Supreme Court held that the "process" claim is so abstract and sweeping as to cover both known and unknown uses of the BCD to pure binary conversion. The court further held the claim not patentable because the claim was not limited to any particular type of programmable digital computer and because the method could be carried out mentally, that the claim would effectively preclude use of the method for any currently known or future invention in any field.

Applicants respectfully submits that the process recited in Claim 1 does not rise to the level of abstraction argued in *Benson*. As amended, Claim 1 recites a "method of extracting pertinent information from an information base," and comprises steps including:

identifying an objective to be attained from a target;
characterizing the target as a function of the identified objective;
defining target parameters based upon the characterized target and applying weights to these parameters based upon importance;
selecting a database comprising information pertaining to the target and the identified objective; evaluating target preferences based upon the database information as a function of criteria specific to the target;
allocating weights to the evaluated target preferences; applying a morphological filter to database information; and extracting at least one element that is pertinent to both the target and the objective.

Applicants respectfully submit that not only is the extraction of an element from a data base a tangible result, but furthermore, submit that one skilled in the art would be aware that the method recited in Claim 1 is of a complexity that requires a computer to perform the method.

Applicants respectfully submit, therefore that amended Claim 1 is directed to statutory subject matter and is patentable under 35 USC 101. Withdrawal of this rejection is respectfully requested.

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Examiner's response:

There is no real world practical application stated within the claims or specification. Office Action stands.

7. In reference to the Applicant's argument:

Rejections under 35 USC 112

Claim 1 is rejected under 35 USC 112, first paragraph, as failing to comply with the enablement requirement. This rejection is respectfully traversed.

The Office Action alleges that the specification does not a "morphological filter" in such a way as to enable one skilled in the art to make and/or use the invention.

Applicants respectfully submit that the morphological filter is a well known mathematical operator. For example, in addition to "Morphologie Mathematique," by M. Schmitt and J. Mattioli (see specification, page 5, lines 14-17), the abstract described at the URL <http://db.cwi.nl/rap..porten/abstract.p..hp?abstractnr=205>, is only one of hundreds of thousands of documents on the Internet (keys words: "morphological filter").

Furthermore, the specification describes thoroughly (implementation of the morphological filters and their essential properties, (see specification, page 6, lines 12- 15) the filter itself and its use in present invention (see specification, page 4, line 19 to page 5, line 17, page 5, lines 33-37 and page 6, line 12 to page 9, line 27). Therefore, Applicants respectfully submit that one skilled in the art is enabled to use such a filter for solving any "propaganda" problem while taking account at one and the same time of the objective and of the target.

Accordingly withdrawal of this rejection is respectfully requested.

Examiner's response:

Based on the publication "Morphologie mathematique" by M. Schmitt and J. MATTIOLI published in 1994, the applicant admits that a 'morphological filters' are described therein. The Examiner withdraws the rejection.

8. In reference to the Applicant's argument:

Rejections under 35 USC 103

Claims 1-10 are rejected under 35 USC 103(a) as being unpatentable over Zahavi in view of Mehrotra ('Applying neural computing to target marketing', referred to as Zahavi; Elements of artificial neural networks', referred to as Mehrotra). In response, the claims are amended, and as presented below, are believed to be patentable over the applied art for the failure of the applied art to not only disclose, teach or suggest all of Applicants' recited claim features, but in addition fails to present any apparent reason to combine references or modify prior art to create the Applicants' allegedly obvious claim elements.

Zahavi discloses a specific use of neural networks ("NM") in DBM (Database marketing) consisting in selecting in a customer list those who are most likely to purchase goods. The final stage of the process described by Zahavi comprises merely a scoring step that determines whom of the target audience is most-likely to purchase a predetermined product. These steps do not match with our definition of "pertinent information", i.e. finding arguments likely to convince the target by the decision maker.

Examiner's response:

The phrase 'pertinent information' is not mentioned within the claims, therefore the definition of it is moot.

9. In reference to the Applicant's argument:

Furthermore, nowhere does Zahavi disclose, teach, or suggest "extracting at least one element that is pertinent to both the target and the objective," as recited in amended claim 1.

In addition, Zahavi's method requires the neural network to be trained on past experiences (see e.g. page 6, right column, line 7) and in the conclusion at page 19, right column, Zahavi admits that "the use of the experiment are not encouraging for the neural net approach." Zahavi goes on to state that the "application of NN to address the targeting issues in DBM is not straightforward and definitely not automatic." Zahavi appears to teach away from the neural

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network approach for solving such problems (inasmuch as it requires an extensive amount of explorations and a lot of computer resources (page 19, two last lines and page 20, first line).

Examiner's response:

'Filtered values up of the base and that these elements are extracted' of applicant is equivalent to the results of the 'scoring' module into the 'decision' module of Zahavi. (**Zahavi**, p8, Fig 1) If an item is 'filtered' then it can be viewed as something that is extracted which is pertinent to both the target and the objective. Office Action stands.

10. In reference to the Applicant's argument:

Still further, nowhere does Zahavi even suggest the use of any morphological filter, as recited by Applicants.

The Office Action relies upon Mehrotra to remedy the deficiencies of Zahavi. Applicants respectfully disagree. Applicants submit that Mehrotra appears to only disclose theoretical concepts of Neural Networks, and like Zahavi, appears, in the pages accompanying the Office Action, to only disclose neural networks that need training and are incapable of extracting "pertinent information."

Therefore, Applicants respectfully submit that the combination of Zahavi and Mehrotra fails to teach the recited information extraction method because 1) Zahavi teaches away from neural networks for use with databases, 2) none of these references discloses or suggests the use of morphological networks, and 3) although Zahavi may teach extracting specific targets from a database, none of the references teaches a method to extract pertinent information concerning the targets, as recited in claim 1.

Examiner's response:

'Morphological filter' is disclosed by Schmitt and is used in combination with the other references. Office Action stands.

Examination Considerations

11. The claims and only the claims form the metes and bounds of the invention. "Office personnel are to give the claims their broadest reasonable interpretation in light of the supporting disclosure. *In re Morris*, 127 F.3d 1048, 1054-55, 44USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim are not read into the claim. *In re Prater*, 415 F.2d, 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969)" (MPEP p 2100-8, c 2, I 45-48; p 2100-9, c 1, I 1-4). The Examiner has the full latitude to interpret each claim in the broadest reasonable sense. Examiner will reference prior art using terminology familiar to one of ordinary skill in the art. Such an approach is broad in concept and can be either explicit or implicit in meaning.

12. Examiner's Notes are provided to assist the applicant to better understand the nature of the prior art, application of such prior art and, as appropriate, to further indicate other prior art that maybe applied in other office actions. Such comments are entirely consistent with the intent and spirit of compact prosecution. However, and unless otherwise stated, the Examiner's Notes are

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not prior art but link to prior art that one of ordinary skill in the art would find inherently appropriate.

13. Examiner's Opinion: Paragraphs 11 and 12 apply. The Examiner has full latitude to interpret each claim in the broadest reasonable sense.

Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

15. Claims 1, 2, 4-6, 8, 10 are rejected.

Correspondence Information

16. Any inquiry concerning this information or related to the subject disclosure should be directed to the Examiner Peter Coughlan, whose telephone number is (571) 272-5990. The Examiner can be reached on Monday through Friday from 7:15 a.m. to 3:45 p.m.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor David Vincent can be reached at (571) 272-3080. Any response to this office action should be mailed to:

Commissioner of Patents and Trademarks,
Washington, D. C. 20231;

Hand delivered to:

Receptionist,
Customer Service Window,
Randolph Building,
401 Dulany Street,
Alexandria, Virginia 22313,

(located on the first floor of the south side of the Randolph Building);

or faxed to:

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(571) 272-3150 (for formal communications intended for entry.)

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/P. C./

Examiner, Art Unit 2129

Peter Coughlan

10/27/2008

/David R Vincent/

Supervisory Patent Examiner, Art Unit 2129